

#### **ABSTRACT OF THE DISCLOSURE**

A radio communication system comprises: a radio receiver including an interference canceller configured to generate a replica of a received signal and remove an interference signal from  
5 the received signal, and a frequency offset estimator configured to estimate a carrier frequency offset between a carrier frequency of the interference signal and a carrier frequency of a desired signal included in the received signal; and a radio transmitter including a frequency controller configured to adjust a carrier frequency of a transmitted desired signal to the carrier frequency of the interference signal based on the carrier frequency offset received from the radio receiver.  
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